CENTER FOR MINERALS TECHNOLOGY

CENTER

The Center for Minerals Technology (CMT) was established in 1995. The focus is on developing new technologies for minerals processing. Specific areas of expertise include the design of high efficiency grinding mills using state of the art computer simulation software, advanced mill analysis and monitoring methods, technologies for the in-line monitoring and measurement of particle size on moving conveyor belts, and the real-time control of industrial milling processes.

TECHNOLOGY

Computer software, on-line instruments and laboratory procedures for the design, monitoring control and analysis of industrial grinding machines and operating plants have been demonstrated and are being designed for industrial applications.

ACCOMPLISHMENTS

An instrument to measure the distribution of sizes of particles on moving conveyor belts has been developed and successfully tested at industrial sites. This instrument is of great value because it eliminates the need to take samples from the conveyor for remote analysis and therefore provides real-time process control for mining and milling operations. A laboratory on-line particle analysis system (OPSA) was installed at an industrial site for plant control by pellet characterization. Two companies have taken licenses for the use of the OPSA technology. MillsoftTM, a grinding mill software, was sold to Process Engineering Resources, Inc., a Utah company. The program is made available for online access via the World Wide Web. Ten licenses were sold during the fiscal year to industrial customers, who have benefitted significantly in terms of improved productivity. MMIA - an image analysis software for mineral liberation analysis has been developed to commercial standards. Mineral Technologies Inc. will market this software. MODSIM - a modular simulator for ore dressing plants, consists of an extensive simulation system. A new modern user interface has been built for this software, which is compatible with the Windows operating system. The interface extends the applicability of this system to include large complex industrial plants. **A new start-up company Mineral Technologies Inc. has been spun-off from the Center**, specifically to market new technologies developed by the Center.

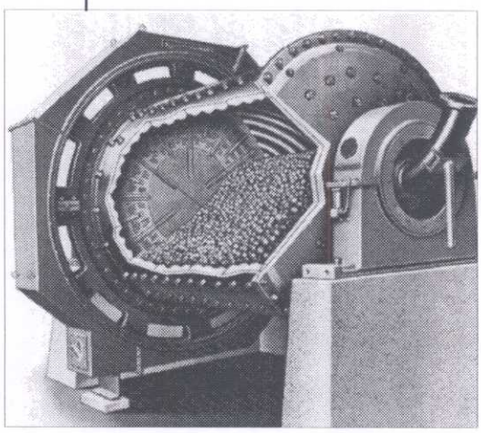
CONTACT

Director: R. Peter King, Ph.D.
University of Utah, Salt Lake City, Utah
Phone (801) 585-3113, Fax (801) 581-8119, rpking@mines.utah.edu

Can You Imagine...

. . . a tool which can observe milled materials traveling along a conveyor belt, calculate the average particle size and provide real time feedback to control and optimize the milling operation?

THE CENTER DEVELOPS LABORATORY AND COMPUTER SYSTEMS FOR OPTIMIZING PERFORMANCE AND MINIMIZING ENERGY CONSUMPTION IN INDUSTRIAL BALL MILLS WHICH ARE CENTRAL TO ALL MINERAL RECOVERY OPERATIONS.



- Typical ball mill grinding operation.